

Claims:

1. (Currently amended) A method for forming a vulcanizable composition of matter, the method comprising:

providing a polymer cement or latex comprising at least one rubber and a solvent or water;

adding at least one processing aid to the cement or latex, where the processing aid includes a polar organic compound;

isolating the rubber and at least one processing aid from the solvent or water to form a premix; and

solid-state mixing the premix with carbon black.

2. (Original) The method of claim 1, where said step of adding at least one processing aid to the cement or latex includes forming a cocktail, which includes the processing aid and a solvent, and adding the cocktail to the cement or latex.

3. (Original) The method of claim 2, where said step of forming the cocktail includes heating the processing aid and solvent to a temperature of from about 30 to about 140°C.

4. (Original) The method of claim 3, where said step of forming the cocktail includes combining the processing aid and solvent with an oil.

5. (Original) The method of claim 4, where the cocktail includes from about 10 to about 50 parts by weight processing aid, from about 100 to about 35 parts by weight solvent, and from about 0 to about 65 parts by weight oil.

6. (Original) The method of claim 1, where said step of adding at least one processing aid to the cement or latex includes forming a cocktail, which includes the processing aid and an oil, and adding the cocktail to the cement or latex.

7. (Original) The method of claim 1, where said step of isolating includes drying the rubber and processing aid.

8. (Original) The method of claim 1, where said step of mixing occurs within a mixer having a net mixing chamber volume of at least about 75 L operated at a fill factor of at least about 50.
9. (cancelled)
10. (Original) The method of claim 9, where the polar organic compound is a high-HLB surfactant, an ester, a ketone, an aldehyde, an ether, an amide, an amine, a carboxylic acid, a fatty acid, a sulfonic acid, an organic sulfate, a metal carboxylate, a metal sulfonate, or a mixture thereof.
11. (Original) The method of claim 10, where the fatty acid salt includes a mixture of zinc fatty acid salts.
12. (Original) The method of claim 1, where the rubber is a functionalized rubber.
13. (Original) The method of claim 12, where the functionalized rubber is prepared by anionically polymerizing conjugated dienes, alone or in combination with vinyl aromatic monomers, and where the polymerization is initiated with a cyclic amine initiator or a tin-lithio initiator.
14. (Original) The method of claim 12, where the functionalized rubber is prepared by terminating a polymerization with a coupling or functional terminating agent.
15. (Original) The method of claim 12, where the functionalized rubber includes both head and tail functionalization.
16. (Original) The method of claim 1, further comprising the step of shaping the vulcanizable composition of matter into a green tire component, and further comprising the step of curing the tire component.

17. (Original) The method of claim 1, where said step of adding at least one processing aid includes adding from about 0.1 to about 15 parts by weight processing aid per 100 parts by weight rubber.

18. (Original) The method of claim 1, where said step of adding at least one processing aid includes adding from about 0.5 to about 12 parts by weight processing aid per 100 parts by weight rubber.

19. (Cancelled)

20. (Cancelled)

21. (New) A method for forming a vulcanizable composition of matter, the method comprising:

    providing a polymer cement comprising at least one rubber and an organic solvent;

    adding at least one processing aid to the cement, where the processing aid includes a polar organic compound;

    isolating the rubber and at least one processing aid from the solvent to form a premix; and

    solid-state mixing the premix with carbon black.

22. (New) The method of claim 21, where the polar organic compound is a high-HLB surfactant, an ester, a ketone, an aldehyde, an ether, an amide, an amine, a carboxylic acid, a fatty acid, a sulfonic acid, an organic sulfate, a metal carboxylate, a metal sulfonate, or a mixture thereof.

23. (New) The method of claim 22, where the fatty acid salt includes a mixture of zinc fatty acid salts.

24. (New) The method of claim 21, where said step of adding at least one processing aid includes adding from about 0.1 to about 15 parts by weight processing aid per 100 parts by weight rubber.

25. (New) The method of claim 1, where said step of adding at least one processing aid includes adding from about 0.5 to about 12 parts by weight processing aid per 100 parts by weight rubber.
26. (New) The method of claim 1, where the polar organic compound is characterized by an HLB of from about 3 to about 35.
27. (New) The method of claim 21, where the polar organic compound is characterized by an HLB of from about 3 to about 35.
28. (New) The method of claim 1, where the polar organic compound is characterized by an HLB of from about 10 to about 33.
29. (New) The method of claim 21, where the polar organic compound is characterized by an HLB of from about 10 to about 33.
30. (New) The method of claim 1, where the polar organic compound is characterized by an HLB of from about 20 to about 30.
31. (New) The method of claim 21, where the polar organic compound is characterized by an HLB of from about 20 to about 30.
32. (New) The method of claim 1, where the polar organic compound is characterized by a molecular weight of from about 100 g/mole to about 15,000 g/mole.
33. (New) The method of claim 21, where the polar organic compound is characterized by a molecular weight of from about 100 g/mole to about 15,000 g/mole.
34. (New) The method of claim 1, where the polar organic compound is characterized by a molecular weight of from about 1,000 g/mole to about 14,000 g/mole.

35. (New) The method of claim 21, where the polar organic compound is characterized by a molecular weight of from about 1,000 g/mole to about 14,000 g/mole.

36. (New) The method of claim 1, where the polar organic compound is characterized by a molecular weight of from about 5,000 g/mole to about 13,000 g/mole.

37. (New) The method of claim 21, where the polar organic compound is characterized by a molecular weight of from about 5,000 g/mole to about 13,000 g/mole.

38. (New) The method of claim 1, where said step of providing a polymer cement or latex comprising at least one rubber and a solvent or water includes providing a polymers cement comprising at least one rubber dissolved in an organic solvent.